



NOAA FISHERIES
NATIONAL MARINE FISHERIES SERVICE



Authorizations and Permits for Protected Species (APPS)

File #: 14741

Title: Carmel River Steelhead Rescue and Rearing Enh

Applicant Information

Affiliation: Monterey Peninsula Water Management District

Fax Number: (408)649-3678

Project Information

File Number: 14741

Application Status: **Submitted**

Project Title: Carmel River Steelhead Rescue and Rearing Enhancement Program

Project Status: New

**Previous Federal or
State Permit:**

Permit Requested: • ESA Section 10(a)(1)(A) permit (Pacific fish/invertebrate enhancement)

**Where will activities
occur?** California (including offshore waters)

**State department of
fish and
game/wildlife:** N/A

Research Timeframe: **Start:** 07/31/2018 **End:** 08/01/2023

Sampling Season/Project Duration:	The Monterey Peninsula Water Management District (District) would like to rescue-and-relocate South-Central California Coast (S-CCC) steelhead from the lower Carmel River to upper Carmel River reaches, and to rear rescued S-CCC steelhead at the Sleepy Hollow Steelhead Rearing Facility (Facility). Rescue efforts begin when flow drops below 8 cfs at the MPWMD Highway 1 Bridge Gaging Station (RM 1.1); historically rescue efforts begin between April and July, and end by September. Rearing at the Facility begins as early as May, with releases typically occurring in November. During some years, reaches have not re-wetted enough for releases to occur until February.
	This permit is requested for five years; through the 2023 operating season. By 2023, an alternative water supply to the Carmel River is expected to have been online for 3 years. Thereafter, the program will be adjusted in response to improved flow conditions, and the need to renew the permit will be evaluated every five years.
Abstract:	N/A

Project Description

Purpose: The objective of this program is to rescue, rear, and relocate natural origin juvenile steelhead (*Oncorhynchus mykiss*) with the objective of assisting the restoration, conservation, and maintenance of the steelhead population at viable levels in the Carmel River Watershed as mitigation for environmental impacts caused by diversion of surface and subsurface streamflow in the lower twenty-four miles of the mainstem Carmel River and subunits of the Carmel Valley Alluvial Aquifer (Aquifer). The program began before the 1997 Endangered Species Act (ESA) listing of S-CCC steelhead as a threatened species as a mitigation requirement from the District's 1990 Environmental Impact Report for its Water Allocation Program (Mintier et al., 1990). This program was necessary to ensure compliance with the California Environmental Quality Act. Environmental impacts from water diversions on the Carmel River include loss of rearing habitat and downstream migration opportunities, which interfere with individual survival rates and long-term viability of this population. Hence, ancillary goals of the Water Allocation Program are to preserve and restore physical conditions in the watershed, and to develop alternative domestic water sources, thereby reducing the need for conducting rescues, transporting, and artificial rearing at the Facility. The primary goal of the proposed program is to maximize survival and condition of S-CCC steelhead through rescue, rearing, and relocation, and to achieve growth rates for Facility reared fish that are similar to those growth rates expected from natural rearing.

The District is requesting this permit for: 1) rearing rescued federally threatened South-Central California Coast Steelhead Distinct Population Segment (January 5, 2006; 71 FR 834) at the Facility; 2) rescuing and relocating steelhead from the lower Carmel river to upper Carmel river reaches; 3) rescuing and relocating steelhead from the lower Carmel River to the Lagoon or Ocean; and 4) subsequent post-release monitoring. The District is requesting a 5 year permit be issued for this action.

Description: To maximize survival of S-CCC steelhead the District will utilize the following rescue, rearing, and release methods described below.

FISH RESCUES

Fish rescues begin when the Carmel River flow is projected to be on a continuous recession that will take flows in the lower river to zero, and are only initiated when necessary. This threshold flow rate is 8 cfs, as measured at the District Highway 1 Bridge Gauging Station. At this rate, passage in the lower nine miles of river is severely impaired as cobble and gravel become exposed creating shallow flow throughout most riffles impeding the ability of steelhead to naturally relocate upstream of their own volition. Under most circumstances, this 8 cfs trigger allows orderly rescues to be conducted from downstream to upstream with ample time to conduct 2 to 4 passes through each reach.

Beginning spring or early summer, the procedures for conducting rescues are as follows:

- The District will rescue early YOY from habitats downstream of RM 3.5 and will transport them to the Lagoon, to the Facility, or upriver. Based on previous experience, the District anticipates rescuing up to a maximum of 24,124 fish from this reach, usually much less. Of this total, half of the fish are relocated to the Lagoon/upriver while the other is reared at the Facility.
- Between RM 3.25 and RM 8.5, the District anticipates rescuing up to a maximum of 72,372 late YOY and 8,803 yearlings from this reach. In most years, fish rescued from this reach will be reared at the Facility. In those years where the Facility is not operating, or is at capacity, portions of these fish will be relocated upstream: up to 43,343 early YOY and 1,438 yearlings will be released above RM 10.7 - 14.5, depending on Water Year Type. Rarely, the District will rescue steelhead from reaches below RM 8.5 during fall months, as runoff from the first storm hydrographs percolate into the Carmel Valley Aquifer below RM 8.5.
- During spring months of dry and critically-dry years, the District anticipates rescuing up to 5,400 pre-smolts and smolts from RM 9.1 or downstream, and relocating these fish to the Lagoon or the Pacific Ocean at Stewart's Cove on the north end of Carmel River State Beach, respectively. There is no rearing of this life stage at the Facility.
- In dry and critically dry water year types, the District may need to rescue up to 1.5 miles of stream in the reach that is bounded by Boronda Road and Robles Del Rio Road Bridges between RM 12.7-14.5. Up to 15,761 YOY and 1,438 yearlings may be rescued from this reach. These rescues are rare and occur less than once every four years. If the Facility is at capacity, or non-operational, these fish will be relocated upstream of RM 14.5, otherwise they will be reared at the Facility.
- Occasionally during dry and critically-dry years, the District rescues adult kelts from RM 9.1 and downstream whose emigration to the ocean is blocked by receding stream flow. Under the proposed program, the District anticipates rescuing at most 100 of these fish for relocation to the ocean. Any unspawned adults rescued will instead be relocated above RM 8.5. There is no rearing of this life stage at the Facility.

Annual fish rescue numbers vary widely depending on water year type, seasonal flow patterns, annual adult run size, and relative spawning success. The proposed limits in this permit are representative of the maximum rescue numbers expected in the next five years, and are based on historical rescues at the Facility from 2001 to 2012. Based on experience during this 12 year period, the maximum number of fish needing rescue in the mainstem Carmel River is approximately 110,800 fish including: 96,496 Young-of-the-Year (YOY), 8,803 yearlings, 5,400 smolts, and 100 adult kelts. Based on the annual average for the same time period, the total number of fish needing rescue is likely around 15,700 fish (2013 - 2014 Annual Mitigation Report (page XVI-14)). For further details on fish rescues, please see Sections 1 and 6 of the attached Rescue and Rearing Management Plan (RRMP), and the District's annual mitigation reports found at http://www.mpwmd.net/programs/mitigation_program/annual_report/annual_reportrev1.htm

PIT TAGGING

To detect S-CCC steelhead in the Carmel River and to identify potentially harmful differences in emigration timing, the District will PIT tag three groups of juvenile steelhead: 1) pre-smolts rescued from the lower river and relocated upstream, and smolts rescued and relocated to the lagoon or ocean; 2) rescued and reared at the Facility; and 3) encountered during fall population surveys. Up to 2,000 fish per group will be tagged to achieve 1 - 2% returns to downstream PIT tag arrays.

FISH REARING

Those fish that are not relocated to the upper river, lagoon, or the ocean are brought to the Facility for rearing, typically on a daily basis during the rescue season.

Fish that are less than ~40 mm are transferred from the transport truck to the rearing troughs where they may receive salt (7 ppt) or antibiotic treatment. All other fish are placed into quarantine tanks where they receive a formalin (15 - 25 ppm) or salt treatment (7 ppt); some batches of fish may receive an additional oxytetracycline bath, if necessary.

Following these health treatments, fish large enough to be placed in the rearing channel are sorted into approximately four size groups: 1) 40 - 80 mm; 2) 81 - 120 mm; 3) 121 - 150 mm; and 4) 151+ mm and are then placed into the rearing channel. Fish from the largest size groups are always placed at the head of the channel, typically in sections 1 - 4 of the channel. Medium and small sized fish are placed in the remaining sections of the channel (5 -16) in an upstream to downstream manner to maintain fish health. Size sorting and placement in the rearing channel varies each season depending on the number and initial sizes of fish rescued.

Fish less than 40 mm, initially placed into rearing troughs, are transferred into an appropriate section of the rearing channel once they reach a size greater than 50 mm. At the end of the rearing season, the District aims to have no more than half of the year's YOY reach smolt size (150 mm).

FISH RELEASES

Release of fish from the Facility is initiated after the lower river begins to rewet, typically in November; but on occasion, as late as February. The following protocol is followed for annual releases of fish reared at the Facility:

- Fish up to 120 mm long are the first batch of fish to be released back into the river. Releases are initiated once the first runoff event doubles the dominant base-flow in the River at Garland Park (RM). These fish will be released into one of two habitats, either perennial habitats between RM 17.6 and 8.5, or rewatered habitats downstream of RM 8.5. The difference in release location is dependent on densities found during the District's annual Fall Population surveys at designated monitoring sites. YOY are released between RM 17.6 and 8.5 if fall densities were found to be less than 2 fish per foot, otherwise they are released downstream of RM 8.5 to minimize intraspecific competition and predation.
- Fish ranging from 120 to 159 mm are released two to four weeks after flow has reoccupied the lower river as measured at the Near Carmel Gauge (RM 3.2). This delayed release ensures that benthic macroinvertebrates that steelhead prey on have had time to become established in the re-wetted habitats, making them suitable for releases. Fish are released in a staged and alternated fashion into habitats downstream of RM 8.5 to minimize intraspecific competition and predation.
- Fish exceeding 160 mm are released two to four weeks after flow has reoccupied the lower river as measured at the Highway One District Gauge, or when the lagoon mouth opens. These fish are released into seasonal habitat below RM 4.5 with the largest fish planted farthest downstream. Fish that exhibit smolt characteristics (i.e. loss of parr marks, silvering of body, black-tipped fins, etc.) are released downstream of RM 3.86 if flows are sufficient for volitional passage into the lagoon (>20 cfs), otherwise they are released directly into the lagoon.

Supplemental Information

Status of Species:

Populations of S-CCC steelhead throughout the DPS have exhibited a long-term negative trend since the mid-1960s. In the mid-1960s, total spawning populations were estimated at 17,750 individuals (Good et al. 2005). Available information shows S-CCC steelhead population abundance continued to decline from the 1970s to the 1990s (Busby et al. 1996) and more recent data indicate this trend continues (Good et al. 2005). Current S-CCC steelhead run-sizes in the five largest systems in the DPS (Pajaro River, Salinas River, Carmel River, Little Sur River, and Big Sur River) are likely greatly reduced from 4,750 adults in 1965 (CDFG 1965) to less than 500 returning adult fish in 1996. More recent estimates for total run-size do not exist for the S-CCC steelhead DPS (Good et al. 2005).

Recent analyses conducted by NMFS (Boughton 2006; Boughton et al. 2007; Williams et al. 2011; Williams et al. 2016) indicate the S-CCC steelhead DPS consists of 12 discrete sub-populations which represent localized groups of interbreeding individuals, and none of these sub-populations currently meet the definition of viable. In the Carmel River there has been a fairly steady 15-year decline in abundance of anadromous adults (Williams et al. 2016). This decline could indicate an increase in S-CCC steelhead DPS extinction risk (Williams et al. 2016).

Methods:**FISH RESCUES**

Fish will be captured primarily by seining, but also by backpack electrofishing and fyke traps when necessary. Seines with ¼ inch stretch mesh will be used in deep run and pool habitats when water quality permits. As many fish as possible will be caught using this method. Depending on various physical conditions of the environment (i.e. areas with emerged vegetation, rocks and boulders, complex structures, etc.), seining may not be feasible, and backpack electrofishing will be utilized according to protocol recommended by NMFS (2000). When necessary, electrofishing sessions will begin with all settings at minimal levels needed to capture fish.

During extended drought periods, when flow over riffles downstream of RM 9.1 have less than 6" of flow over them, a weir and fyke trap will be installed to capture emigrating steelhead preventing them from entering drying reaches of the lower river. Fish captured via this floating box trap are removed twice per day, seven days a week, and are relocated to various locations according to the "Fish Rescues" description above. When used, the trap is typically operated during the months of April and May, and data from the trap is compiled in the District's Annual Mitigation Reports.

All fish rescued will be transported from rescue sites in dark colored 5-gallon buckets to the transport truck. Buckets are outfitted with battery operated aerators and utilize river water when temperature and quality are adequate. If water quality or temperature is less than ideal, river water treated with non-iodized salt will be utilized from the transport truck. Loading densities for 5-gallon buckets and the transport truck can be found in Section 6, Table 6 - 2 of the attached RRMP.

Fish rescued and relocated to saltwater, will be gradually exposed to water with increasing salt concentration to minimize shock from exposure to full-strength seawater over a period of 3 - 5 hours, as described in Section 8 of the attached RRMP.

For those fish rescued from the lower river and relocated to the upper river, and fish rescued and reared at the Facility, the following procedures will be implemented during transport:

- Temperature differences between transport container and release sites will be within 5 degrees F. If temperature is outside this range, ice contained in sealed bags or water from receiving locations will be mixed with water in transport truck to bring temperatures to better suited conditions.
- Stocking densities for all containers will be followed according to the density criteria outlined in section 6 of the attached RRMP.

PIT TAGGING

Fish are anesthetized to reduce handling mortality and stress, and tagging is performed when fish are undergoing the least amount of stress. Fish are anesthetized by being placed briefly into a solution of alka-seltzer gold (potassium and sodium bicarbonate) and water in a 5-gallon bucket. To create the solution, approximately ½ a tablet will be dissolved in 4 gallons of water. After fish are anesthetized, they will receive either a 12 or 25 mm PIT tag (65 - 99 mm fish get 12 mm tag, 100 mm or greater get 25 mm tag) inserted into the abdominal cavity adjacent to the internal organs. Fish that are PIT tagged during rescue and relocation efforts will be tagged upon initial rescue to minimize handling. Fish reared at the Facility will be tagged after initial quarantine or prior to release, depending on the number of fish and available staff.

FISH RELEASES

Fish reared at the Facility are removed from their section of the rearing channel using seining, dip-nets, and backpack electrofishing. Each section of the channel is divided by a screened vertical weir plate allowing staff to sequentially capture and remove fish from each section from a downstream to upstream direction. The following protocol is utilized for collection of fish from the channel prior to releases into the river:

1. Seines and dip-nets are used to remove as many fish as possible from each section of the rearing channel; and are placed in 5-gallon buckets outfitted with battery operated aerators. This effort is continued until the catch declines to less than 5 fish per attempt. Fish less than 120 mm will be transferred to the transport truck's 125-gallon tanks for release at the end of the day. Fish larger than 120 mm will be separated into two size groups: 121 to 160 mm and 160+ mm and are temporarily held in either the quarantine tanks, or Tank 3, for later transport.
2. Prior to transfer into the 125-gallon tanks, approximately every tenth fish captured from each section will be placed in a 30-gallon carboy for no more than one hour to gather length and weight measurements. A maximum of 50 fish are placed in the carboy, and sampling continues until a minimum of 60 fish are measured for each section of the rearing channel.
3. After step 1, fish are herded with an electrofishing machine into netted-off sections in each pool, are dip-netted, and sampled and transferred as outlined in steps 1 and 2.
4. At the end of each release day, fish in the transport trucks shall be released to locations according to guidelines in the "Fish Release" description above.
5. If steps 1 - 4 are interrupted by a sudden increase in streamflow, the District will switch to their emergency release procedures as outlined in Section 8 of the attached RRMP.

Fish in other rearing containers at the Facility (tank 3, quarantine tanks, and rearing troughs) will be captured with seines and dip nets. The District will measure the length and weight of 10% or 60 fish in each container (whichever is greater) based on a census of fish in each container. All fish in these groups will be released to locations described in the "Fish Release" description above, and are transported/sampled as described above in steps 1 - 5.

Lethal Take:	At the end of each rearing season and prior to any fish releases, up to 150 juveniles may be sacrificed for health inspection by the California Department of Fish and Wildlife, or by our contract veterinarian to ensure that diseased fish are not released into the wild.
Anticipated Effects on Animals:	<p>The District anticipates that some mortality will occur as a result of transport and handling. To date these mortalities constitute no more than 1.5% of the total number of fish encountered (i.e. rescued and reared, and rescued and relocated fish) over the duration of the proposed project (i.e. all transport and handling from initial rescues to final releases).</p> <p>Also anticipated is mortality that will occur from intraspecific predation given the species natural tendency to exhibit cannibalistic behavior.</p> <p>While these effects are not ideal, without the proposed program nearly 100% of the natural origin fish inhabiting the lower 9 miles of the Carmel River would be lost as the river dewatered. The program rescues approximately 80% of fish from drying reaches, and makes a significant contribution to sustaining current population levels of this threatened species.</p>
Measures to Minimize Effects:	<p>To minimize mortality from transport and handling the District implements the following measures:</p> <ul style="list-style-type: none"> • Fish are transported well within appropriate stocking densities • Temperature range of transport and release waters maintained between 5 degrees • Fish are captured with least stressful methods whenever possible <p>To minimize mortality from intraspecific predation the Districts implements the follow measures:</p> <ul style="list-style-type: none"> • Fish are size sorted for rearing, with largest fish at the head of the channel • Sections in the rearing channel are separated by mesh screens to prevent mixing • Rearing channel features cobble and sunken wood structures to allow for shelter and avoidance • If there is not sufficient food, ad lib feeding during the warmer months of the year (through October) is done to address increases in base metabolism which can contribute to intraspecific predation
Resources Needed to Accomplish Objectives:	An average annual total of 5.16 Full Time Equivalent personnel years of direct staffing support the program, which cost a total of \$1,217,045 to execute in Fiscal Year 2012 - 2013.
Disposition of Tissues:	All carcasses acquired from incidental lethal take during rescues, rearing, or re-releases will be frozen & retained through December of each year. We will contact NMFS-SWFSC and Santa Rosa offices for instructions on where to ship these carcasses by December 1 of any year. If no direction is provided by December 10, they will be disposed of in the septic system of the Facility.
Public Availability of Product/Publications:	<p>• An annual mitigation report covering all District activities is produced by the spring of the following State Fiscal Year (SFY) and are posted online at: http://www.mpwmd.net/programs/mitigation_program/annual_report/annual_reportrev1.htm Reports from 1995-2004 are available on request.</p> <p>• Monthly fishery reports are also provided in every monthly board meeting packet, and are available at: http://www.mpwmd.net/who-we-are/board-of-directors/bod-meeting-agendas-calendar/</p>

- General Fisheries Program Data is updated annually, and in some cases every few weeks, and can be found at: <http://www.mpwmd.net/environmental-stewardship/carmel-river-steelhead-resources/>

Federal Information

No Federal comments or authorizations.

Location/Take Information

Location

Research Area: Pacific Ocean **State:** CA **Sub Basin (4th Field HUC):** Carmel **Stream Name:** Mainstem Carmel River & Lagoon **Begin Mile:** 0.0 **End Mile:** 14.5

Location Description: Rescues, rearing, and releases occur on the Carmel River between RM 0 and 14.5 according to the attached RRMP.

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Steelhead	South-Central California Coast (NMFS Threatened)	Natural	Juvenile	Male and Female	102450	27961	Collect, Sample, and Transport Live Animal	Seine, Beach		N/A	1;2	7/31/2018	8/1/2023
Details: Indirect mort. includes losses from transport and handling, and natural mortality during rearing. "Details" from row 6 also applies here.															
2		Steelhead	South-Central California Coast (NMFS Threatened)	Natural	Juvenile	Male and Female	150	0	Intentional (Directed) Mortality	Hand and/or Dip Net	Tissue sample (other internal tissues)	N/A	N/A	7/31/2018	8/1/2023
Details: Result of health checks by the California Department of Fish and Wildlife at the Facility. This represents the maximum number of fish culled, in reality this number is not likely to exceed 50 fish.															
3		Steelhead	South-Central California Coast (NMFS Threatened)	Natural	Juvenile	Male and Female	2700	540	Collect, Sample, and Transport Live Animal	Seine, Beach	Tag, PIT	N/A	1;2	7/31/2018	8/1/2023
Details: Backpack electrofishing may be used in habitats where seining is not efficient including reaches that contain emerged vegetation, rocks and boulders, and other complex structures that precludes seining.															

4		Steelhead	South-Central California Coast (NMFS Threatened)	Natural	Smolt	Male and Female	4100	205	Collect, Sample, and Transport Live Animal	Seine, Beach		N/A	3	7/31/2018	8/1/2023
Details: Indirect mort. includes losses from transport and handling, seining, and in some years a weir."Details" from row 6 also applies here.															
5		Steelhead	South-Central California Coast (NMFS Threatened)	Natural	Smolt	Male and Female	1300	65	Collect, Sample, and Transport Live Animal	Seine, Beach	Tag, PIT	N/A	3	7/31/2018	8/1/2023
Details: Indirect mort. includes losses from transport and handling, seining, PIT tagging, and in some years a weir."Details" from row 6 also applies here.															
6		Steelhead	South-Central California Coast (NMFS Threatened)	Natural	Adult	Male and Female	10	0	Collect, Sample, and Transport Live Animal	Seine, Beach		N/A	4	7/31/2018	8/1/2023
Details: During dry/critically dry water years capture may occur via a weir (RM 9.1) Weir would most likely operate April to May.															
7		Steelhead	South-Central California Coast (NMFS Threatened)	Natural	Spawned Adult/ Carcass	Male and Female	90	5	Collect, Sample, and Transport Live Animal	Seine, Beach	Tag, PIT	N/A	4	7/31/2018	8/1/2023
Details: During dry/critically dry water years capture may occur via a weir (RM 9.1) Weir would most likely operate April to May.															

Transport Information

- Mode(s) of Transportation:** Carmel River to Sleepy Hollow Steelhead Rearing Facility -- Transport truck with two separate insulated 125 gallon fiberglass tanks

Transportation Company: N/A

Maximum amount of time between capture and arrival: Maximum time is 6 hours; on average closer to 3 hours

Container Description: 125 gallon fiberglass tanks

Special Care: 3% salt used in tanks and ice chests; aerators used at all times; fish transport truck will be equipped with pure oxygen aeration if road construction/traffic is expected

Accompanying Personnel Qualifications: An AFS Certified Fisheries Professional oversees all rescues

Facility Title: Sleepy Hollow Steelhead Rearing Facility

Facility Affiliation/Organization: Monterey Peninsula Water Management District

Address: 45 San Clemente Drive
Carmel Valley, CA 93924 UNITED STATES

Phone Number: (831)649-6094 ext.

Containment Method: Fry less than 40 mm: 220 gallon rearing troughs. Juveniles: 800 foot naturalized rearing channel

Final Disposition: Fry less than 40 mm: 220 gal rearing troughs. Juveniles: 800 ft. rearing channel. Both life histories reared at Facility from point of rescue until lower river rewets, then released back to the River consistent w/ attached RRMP

-
2. **Mode(s) of Transportation:** Sleepy Hollow Steelhead Rearing Facility to Carmel River- - Transport truck with two separate insulated 125 gallon fiberglass tanks
- Transportation Company:** N/A
- Maximum amount of time between capture and arrival:** 3 hours or less
- Container Description:** 125 gallon fiberglass tanks
- Special Care:** 3% salt used in tanks and ice chests; aerators used at all times; fish transport truck will be equipped with pure oxygen aeration if road construction/traffic is expected
- Accompanying Personnel Qualifications:** An AFS Certified Fisheries Professional oversees all releases
- Facility Title:**
- Facility Affiliation/Organization:**
- Address:** Carmel River, CA UNITED STATES
- Phone Number:**
- Containment Method:** 125 gallon fiberglass tanks
- Final Disposition:** Releases to the Carmel River into the reaches they were originally rescued from (below RM 8.5), consistent with RRMP
-
3. **Mode(s) of Transportation:** Lower Carmel river to upper Carmel river--Transport truck with two separate insulated 125 gallon fiberglass tanks and/or 80 - 120 quart ice chests in bed of pickup truck (one adult fish per chest)
- Transportation Company:** N/A
- Maximum amount of time between capture and arrival:** Maximum time is 6 hours; on average closer to 3 hours
- Container Description:** 125 gallon fiberglass tanks and/or 80 - 120 quart ice chests in bed of pickup truck (one adult fish per chest)

Special Care:	3% salt used in tanks and ice chests; aerators used at all times; fish transport truck will be equipped with pure oxygen aeration if road construction/traffic is expected
Accompanying Personnel Qualifications:	An AFS certified fisheries professional oversees all rescues and relocations
Facility Title:	
Facility Affiliation/Organization:	
Address:	Carmel River, CA UNITED STATES
Phone Number:	
Containment Method:	125 gallon fiberglass tanks or 80 - 120 quart ice chests in bed of pickup truck (one adult fish per chest)
Final Disposition:	Juveniles: released into Carmel River above RM 10.7 - 14.5; Unspawned Adults: released to Carmel River upstream of RM 8.5

-
4. **Mode(s) of Transportation:** From Carmel River to ocean or lagoon -- Transport truck with two separate insulated 125 gallon fiberglass tanks and/or 80 - 120 quart ice chests in bed of pickup truck (one adult fish per chest)
- Transportation Company:** N/A
- Maximum amount of time between capture and arrival:** Maximum time is 6 hours; on average closer to 3 hours
- Container Description:** 125 gallon fiberglass tanks and/or 80 - 120 quart ice chests in bed of pickup truck (one adult fish per chest)
- Special Care:** 3% salt used in tanks and ice chests; aerators used at all times; fish transport truck will be equipped with pure oxygen aeration if road construction/traffic is expected
- Accompanying Personnel Qualifications:** An AFS certified fisheries professional oversees all rescues and relocations
- Facility Title:**
- Facility Affiliation/Organization:**
- Address:** Carmel River, CA UNITED STATES
- Phone Number:**
- Containment Method:** 125 gallon fiberglass tanks and/or 80 - 120 quart ice chests in bed of pickup truck (one adult fish per chest)
- Final Disposition:** Adults will be released at either the Carmel River Lagoon or the ocean off Carmel State Beach

NEPA Checklist

1) If your activities will involve equipment (e.g., scientific instruments) or techniques that are new, untested, or otherwise have unknown or uncertain impacts on the biological or physical environment, please discuss the degree to which they are likely to be adopted by others for similar activities or applied more broadly.

N/A

2) If your activities involve collecting, handling, or transporting potentially infectious agents or pathogens (e.g., biological specimens such as live animals or blood), or using or transporting hazardous substances (e.g., toxic chemicals), provide a description of the protocols you will use to ensure public health and human safety are not adversely affected, such as by spread of zoonotic diseases or contamination of food or water supplies.

Fish being rescued for relocation upstream are not removed from severely impaired waters (low D.O., high temperature, severe algal blooms, apparent effluent contamination) where they have any disease visible to the naked eye, or initial rescues may result in high mortality due to handling stress on already diseased fish. These fish are left in place to expire as the river dries back (take for these fish is covered under a separate permit for California American Water). All fish rescued for rearing receive prophylactic treatment for external parasites, fungi and bacteria, before being stocked into the rearing troughs or the rearing channel.

3) Describe the physical characteristics of your project location, including whether you will be working in or near unique geographic areas such as state or National Marine Sanctuaries, Marine Protected Areas, Parks or Wilderness Areas, Wildlife Refuges, Wild and Scenic Rivers, designated Critical Habitat for endangered or threatened species, Essential Fish Habitat, etc. Discuss how your activities could impact the physical environment, such as by direct alteration of substrate during use of bottom trawls, setting nets, anchoring vessels or buoys, erecting blinds or other structures, or ingress and egress of researchers, and measures you will take to minimize these impacts.

Rescues are from two reaches: 'lower river' from Highway 1 Bridge (RM 1.1; Coordinates: (x) 5706137 & (y) 2091365) to Robinson Canyon Rd. Br. (RM 8.5; Coordinates (x) 5737217 & (y) 2084730); 'DeDampierre reach' from Boronda Rd Br. (RM 12.7; Coordinates (x) 5753755 & (y) 2072971) to the seasonal 'Girl Scout Br.' (~RM 14.2; Coordinates (x) 5756899 & (y) 2068027). Transport is to the SHSRF/other viable habitat below SCD (RM 18.6). SHSRF is at RM 17.3, elevation 405 feet, on the south side of the Carmel R.; Ca. St. Plane coordinates (NAD 1983) are (x) 5763201 & (y) 2056185; within the Ca., Central Coast Hydrologic Unit No. 18060012 of the U.S. Geological Survey. The Lagoon (RM 0-1.1) is at Carmel R. St. Beach, owned by Ca. St. Dept. of Parks & Recreation. All aforementioned areas are within SCCC-DPS steelhead Critical Habitat. All activities are upstream & outside of the Monterey Bay National Marine Sanctuary, which is west of the river mouth. The river empties into Carmel Bay containing St. Marine Preserves [Pt. Lobos & Carmel Pinnacles] and St. Marine Conservation Areas [Pt. Lobos & Carmel Bay]. Access is by existing trails. Field methods don't significantly alter habitat.

4) Briefly describe important scientific, cultural, or historic resources (e.g., archeological resources, animals used for subsistence, sites listed in or eligible for listing in the National Register of Historic Places) in your project area and discuss measures you will take to ensure your work does not cause loss or destruction of such resources. If your activity will target marine mammals in Alaska or Washington, discuss measures you will take to ensure your project does not adversely affect the availability (e.g., distribution, abundance) or suitability (e.g., food safety) of these animals for subsistence uses.

N/A

5) Discuss whether your project involves activities known or suspected of introducing or spreading invasive species, intentionally or not, (e.g., transporting animals or tissues, discharging ballast water, use of equipment at multiple sites). Describe measures you would take to prevent the possible introduction or spread of non-indigenous or invasive species, including plants, animals, microbes, or other biological agents.

The proposed project follows CDFW protocols for preventing spread of invasive New Zealand Mudsnaills via field gear listed in their SCP

Project Contacts

Responsible Party: David Stoldt
Primary Contact: Kevan Urquhart
Principal Investigator: Kevan Urquhart

Other Personnel:

Name	Role(s)
Beverly Chaney	Co-Investigator
Cory Hamilton	Co-Investigator

Attachments

Certification of Identity - P14741T1114741_MPWMD_12-17-2013.pdf (Added Dec 19, 2013)
Contact - Beverly Chaney C17342T5BCresume2009.doc (Added Oct 17, 2017)
Contact - Cory Hamilton C21132T5CHresumeV2.doc (Added Oct 17, 2017)
Contact - Kevan Urquhart C12271T5MPWMD_SenFishBiol_resume.doc (Added Oct 15, 2008)
Project Description - P14741T1Feb-8-2018-Final.pdf (Added Feb 8, 2018)

Status

Application Status: Submitted
Date Submitted: February 8, 2018
Last Date Archived: February 8, 2018

• **ESA Section 10(a)(1)(A) permit (Pacific fish/invertebrate enhancement)**

Current Status: N/A **Status Date:** January 25, 2016

Expire Date:

Analyst Information:

- | | |
|------------------|---|
| 1) Erin Seghesio | Phone: (707)578-8515
Email: Erin.Seghesio@noaa.gov |
| 2) Elena Meza | Phone: (707)575-6068
Email: elena.meza@noaa.gov |

Reports

This section is currently empty.